Maternal Undernutrition: Implementing Effective Solutions

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Africa’s Health in 2010

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Countries with the lowest GNP per capita have the highest levels of undernutrition.

![Graph showing correlation between GNP per capita and percent of underweight children under five.]

Social Determinants of Undernutrition

Basic causes
- Social, economic and political context
- Lack of capital: financial, human, physical, social & natural

Underlying causes
- Income poverty: employment, self-employment, dwelling, assets, remittances, pensions etc.

Immediate causes
- Inadequate dietary intake
- Disease
Proportion of undernourished women is higher in the lowest wealth quintile

Source: Africa's Health in 2010 Project (AED), December 2010; graph is based on findings published in DHS country reports.
Why is this the case?
Vicious Cycle of Malnutrition & Poverty

General Malnutrition
Iron-deficiency Anemia

- Poor cognitive development and educational achievement
- Poor Health
- Fatigue

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Income poverty

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- Low worker productivity
- Income poverty
  - Food Insecurity
  - Frequent Infections
  - Hard Physical Labor
  - Frequent Pregnancies
  - Large Families

Vicious Cycle of Malnutrition & Poverty

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Why focus on undernutrition of women?
Why Women?

Productive roles –
  half a country’s workforce

Reproductive roles –
  giving life to the next generation

Improving these roles gives an opportunity to break the vicious malnutrition-poverty cycle
Undernutrition affects 6 MDGs

<table>
<thead>
<tr>
<th>Goal</th>
<th>Nutrition effect</th>
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<td>Goal 2: Achieve universal primary education</td>
<td>Undernutrition affects the chances that a child will go to school, stay in school, and perform well.</td>
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<td>Undernutrition may increase risk of HIV transmission, compromise ART, and hasten onset of AIDS. It increases the chances of TB infection and disease, and reduces malarial survival rates.</td>
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Source: Modified from WB, 2007, Repositioning Nutrition as Central to Development
Moderate anemia increases risk of maternal mortality, not just severe

• The risk relationship is continuous. It’s not only about **severe** anemia

• Decrease in mortality risk for each 1 g/dL increase in pregnancy hemoglobin.

Sources: Caulfield and Black, 2002, Lancet, Global Burden of Disease; Stoltzfus et al. Ch 3, Comparative Quantification of Health Risks
When can we make a difference?
Window of opportunity is pregnancy and 1st two years of child’s life (1000 days)

Source: Adapted from ACC/SCN 2000, 4th Report on the World Nutrition Situation
Window of opportunity for children is especially 0-24 months

Implications for the Development Community
Undernutrition affects 6 MDGs

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Secondary school
Adequate weight
High-quality diet
Iron-folic acid
Postpone marriage
Postpone 1st pregnancy
Window of opportunity is pregnancy and 1st two years of child’s life (1000 days)

- Income opportunities
- Family planning
- Adequate weight
- High-quality diet
- IFA
- Prevention malaria
- Prevention parasitic inf’s

- Baby LBW
  - Inadequate fetal nutrition
- Child Stunted
- Adolescent stunted

Malnourished woman of reproductive age
- Pregnancy
- Low weight gain

PLUS:
- FANC
- Extra food
- Reduce workload

Source: Adapted from ACC/SCN 2000, 4th Report on the World Nutrition Situation
Basic Anemia Package

- Ideally linked with:
  - Tetanus immunization
  - Screening for risk factors
  - Prep for early EBF
  - Prep for newborn care

Malaria Control
IPT p + ITN

Deworming Medicine

Iron Folic Acid Tablets

Extra food for mother

Source: Sanghvi, 2008
Countries with improved nutrition: What did they do?

Stimulated economic growth & implemented targeted social, health and nutrition programs and safety nets

China – broad economic reforms, agriculture production
Thailand – multisectoral approach
Brazil – Zero Hunger Program, employment, agrarian reform
Mexico – PROGRESA/Opportunidades, cash transfers for education, health, and nutrition

Malawi also experiencing malnutrition reductions, though a low-income country
Malawi: Case Study

- Endemic poverty & malnutrition: 53% of maternal deaths due to anemia in 2004
- Why? Vertical & ad hoc projects, no on-going programs
- Response?
  - Conducive policy environment, emphasis on agric production
  - Nutrition secretariat in Office of President (+ HIV+ Agric)
  - Coordinated government response + PPP
- Impact? MDHS: Child stunting reduced from 48% in 2004 → 36% in 2009 (Micronutrient Survey)
  - Women’s undernut (prev of BMI <18.5) low at 4%
- Correlates?
  - Economic growth increased from 2.3% 2003 → 9.7% in 2008
  - Poverty reduced from 65% in 2004 → 45% in 2007

Source: Catherine Mkangama, Govt. of Malawi, AGOA conference, August 3, 2010, Washington, DC
Challenges of Integration: Malawi

- Keeping stakeholders & partners engaged & committed: changing & competing priorities/focus
- Low institutional & human capacity (quantity/quality) - sectoral nutrition coordinators not available at Local Council level
- Low resource allocation in some sectors
- Project-oriented programs: limited coverage & short term, though demonstrate some good practices
- District & community level coordination still weak

Source: Catherine Mkangama, Govt. of Malawi, AGOA conference, August 3, 2010, Washington, DC
**LINKAGES breastfeeding promotion – large scale program**

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<th>Country</th>
<th>Project catchment population</th>
<th>Catchment area</th>
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<td>Madagascar</td>
<td>6.3 million</td>
<td>23 districts in 2 of 6 provinces</td>
</tr>
<tr>
<td>(18 million)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zambia</td>
<td>1 million</td>
<td>54 sites in 6 districts</td>
</tr>
<tr>
<td>(11 million)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ghana</td>
<td>3.5 million</td>
<td>Communities in 31 districts in 7 of 10 regions</td>
</tr>
<tr>
<td>(21 million)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolivia</td>
<td>1 million</td>
<td>153 districts throughout the country</td>
</tr>
<tr>
<td>(9 million)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jordan</td>
<td>1 million</td>
<td>All (351) MCH centers throughout the country</td>
</tr>
<tr>
<td>(5.3 million)</td>
<td></td>
<td></td>
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*Source: Linkages project, 2006*
Timely initiation of breastfeeding rates increased (within 1 hour of delivery)

Source: Linkages project, 2006
Exclusive breastfeeding rates increased
(infants 0 – 6 months)

Source: Linkages project, 2006
Examples of targeted interventions with high-coverage successes globally

- **Salt iodization**
  - A fortification method
  - Highly cost-effective
  - Sustainable with govt oversight of iodine levels in salt

- **Vitamin A supplementation**
  - 2x yearly distribution of capsules through health system
  - Highly cost-effective
  - But donor-funded

- **Breastfeeding promotion**
  - Behavior change method
  - Moderately cost-effective
  - Should be sustainable if social norm has changed
Recommendations

- Promote universal primary and secondary education, especially for girls

- Economic strengthening: put a gender and equity lens on social and economic programs to improve their effectiveness

- Invest in infrastructure to reduce women’s and girls’ time burdens (electricity, transport, water & sanitation)
Recommendations

• Postpone age of marriage and age of 1st pregnancy

• Provide direct nutrition and health interventions
  – Promote and implement at scale, interventions listed above including the experiences from countries that have made progress
  – Scaling up nutrition (SUN)
  – Strengthen health systems for delivery of proven interventions
Conclusions

• Maternal undernutrition is undeniably linked to poverty

• Multiple factors contribute to maternal undernutrition

• A multisectoral approach is required to effectively reduce maternal undernutrition:
  – Health systems response: direct nutrition and health services
  – A range of social and economic programs

• Country promising examples show it can be reduced

• Government leadership & partnerships with the private sector critical
Acknowledgements

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Thank you!